

REMARKS

The application has been reviewed in light of the Office Action dated May 18, 2005. Claims 1, 4 to 12, 15 to 23, 26 to 34, 36, 38 to 54, 56, 58 to 74, 76, and 78 to 100 are pending in the application, with Claims 1, 11, 12, 22, 23, 33, 34, 54, 74, and 94 being independent claims. Reconsideration and further examination are respectfully requested.

12. Claims 1, 4-10, 12, 15-21, 23, 26-32, and 98-100 were rejected under 35 U.S.C. § 102(b) as being anticipated by International Publication Number WO 98/34179 (Schnelle et al.).

The present application discloses a method, apparatus and computer program product for navigating in a multidimensional space containing an electronic publication formed from predefined portions of text-based data encoded using a markup language. The disclosed method, apparatus and computer program enable a non-specialist user to navigate a complex dataset.

The method of navigating in a multidimensional space defined by independent claim 1 provides first and second display regions. The method displays the content of a selected predefined portion of an electronic publication in the first display region. The method also displays a first point on a primary axis of the multidimensional space that is dependent on an attribute of the displayed predefined portion. The method further displays a second point on a second, viewing axis orthogonal to the primary axis. The second point is derived from the first point, dependent upon a logical connection between the predefined portion displayed in the first display region and a predefined portion associated with the second point. The method displays in the second display region information regarding the second point of the second axis. The first and second points provide a user with context for the views currently displayed in the first and second display regions, respectively.

In the embodiment of the invention described with reference to Fig. 1, the first display region corresponds to a content frame 110. The content frame 110 has an

associated content anchor 105, which displays locators for a predefined portion that is currently displayed in the content frame 110. At least one of the locators displayed in the content anchor 105 corresponds to a point on a primary axis of the multidimensional space. In this example, the content anchor indicates that the predefined portion displayed in the content frame 110 relates to s59 of the Corporations Act 1989, in effect from 16 Oct 199 onwards.

A reference anchor 115 describes a current viewing axis that is orthogonal to the first axis. In this example, the viewing axis is a "Normal View" of s59 as in force on 20 July 2000. The information displayed in the reference anchor corresponds to a second point on a second, viewing axis, wherein there is a logical connection between the displayed predefined portion appearing in the first display region (content frame 110) and a predefined portion associated with the second point. A second display region is provided in the form of a reference frame 120, which displays information regarding the second point of the second, viewing axis. In this example, the information in the reference frame contains a set of links 121 corresponding to the members of a viewing axis associated with the current base node.

The method of claim 1 defines a multi-axis viewing interface that provides a user with content and reference components. The multi-axis viewing interface enables a user to return to the primary axis at any point in time and select a new node to navigate through the multidimensional space. Any number of axes may be displayed and navigated without increasing the complexity of the screen view, with only two frames ever being required.

Schnelle does not disclose displaying a selected predefined portion in a first display region while also displaying first and second points on respective first and second orthogonal axes, as defined in claim 1 of the present application.

The first and second display regions of claim 1, when combined with the display in two regions of first and second points on respective orthogonal axes, provide a user with the ability to navigate a document along any number of provided orthogonal axes, while maintaining context for the predefined portion of text currently being viewed. *Schnelle* does not disclose these aspects of claim 1.

Accordingly, Applicant submits that all of the features of claim 1 are not taught by *Schnelle*, and thus claim 1 and dependent claims 4-10 and 98 are novel in light of *Schnelle*. Independent claims 12 and 23 are apparatus and computer program product claims corresponding to the method of claim 1. Applicant submits that

independent claims 12 and 23, and the claims that depend therefrom, are novel in light of *Schnelle* for the reasons presented above in respect of claim 1.

14. Claims 11, 22, and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over International Publication Number WO 98/34179 (*Schnelle et al.*) in view of US Patent No. 6,144,962 (*Weinberg et al.*).

Independent claim 11 provides a method of navigating in a multidimensional space having three or more dimensions, the multidimensional space containing an electronic publication formed from predefined portions of text-based data encoded using a markup language. The method provides a view comprising at least two anchor sets, displays at least one base point and at least a first axis depending from said base point, and displays at least one of a further point and an axis derived from said base point. Further, the method provides a step of navigating a multidimensional space formed by the points and axes, returning to the base point when required, and adjusting the view so that a current view point becomes a new base point.

International Publication Number WO 98/34179 (*Schnelle et al.*) neither teaches nor suggests providing a view comprising at least two anchor sets for navigating a multidimensional space. *Schnelle* neither teaches nor suggests displaying at least one of a further point and an axis derived from the base point. Further, *Schnelle* neither teaches nor suggests adjusting the view such that a current view point becomes a new base point.

US Patent No. 6,144,962 (*Weinberg et al.*) describes a visual Web site analysis program that generates a graphical site map to illustrate the overall architecture of a web site. The site map consists of a number of nodes presented in a two-dimensional hierarchical structure, with links defined between children nodes and parent nodes (col. 10, line 55- col. 12, line 49). Navigating through the two-dimensional hierarchical structure of *Weinberg* utilising incoming and outgoing links from each node corresponds to navigating a single axis depending from a base point and there is no teaching or suggestion of navigating along a multidimensional space having three or more dimensions defined by orthogonal axes.

The specification of the present application refers to an "anchor" on page 9, line 3 as being "a title bar clearly indicating the nature of the view currently displayed in the frame". *Weinberg* provides a tool bar 46 and a filter bar 47, each of which enables a user to initiate commonly-performed functions with respect to the

selected node. Neither a tool bar nor a filter bar indicates the nature of the view pertaining to the selected node. Accordingly, the Applicant submits that Figs. 1 to 3 of *Weinberg* fail to disclose the feature of multiple anchor sets.

In light of the above, the Applicant submits that *Schnelle* and *Weinberg* fail to teach or even suggest all of the features of independent claim 11. Independent claims 22 and 33 are apparatus and computer program product claims corresponding to claim 11, and the Applicant submits that claims 22 and 33 are allowable for the reasons presented above in respect of claim 11.

15. Claims 34, 38, 43, 44, 47-50, 54, 58, 63, 64, 67-70, 74, 78, 83, 84, and 87-90 were rejected under 35 U.S.C. § 103(a) as being unpatentable over International Publication Number WO 98/34179 (*Schnelle et al.*) in view of US Patent No. 5,892,513 (Fay).

Claim 34 is directed to a method of publishing an electronic publication formed from predefined portions of text-based data encoded using a markup language. In the claim, predefined portions are stored in terminal nodes, and one or more higher level nodes are provided for organising the terminal nodes to correspond with a hierarchical structure embodied in the electronic publication. One of the higher level nodes is defined to have a null parent identity, and thus acts as the root of the hierarchical structure. By definition, the hierarchical structure provides an ordered classification, with each layer subordinate to the one above it. Each of the higher level nodes consists of the identity of a parent node, a position indicator for the higher level node and an identifier. The content of the electronic publication is stored in the terminal nodes. No content is stored in the higher level nodes. Further, the position indicator of each higher level node indicates a position of that higher level node relative to a sibling node.

Schnelle does not describe a hierarchical structure having a root node with a null parent identity. The passages of *Schnelle* cited by the Examiner do not teach or suggest the organization of predefined portions into a layered structure with each layer being subordinate to the layer above it, as required by the hierarchical structure constraint of claim 34 of the present application.

Claim 34 of the present application requires that each higher level node contains the identity of a parent node, a position indicator for that higher level node, and an identifier. The position indicator indicates a position of the higher level node

relative to a sibling node. Figs 3 and 4 of *Fay* describe locking units and their associated "shadow nodes". The locking units contain pointers to their child nodes, but do not contain the identity of, or even a pointer to, a parent node. Rather, the locking units may contain a pointer to an associated shadow node. The shadow nodes shown contain pointers to parent nodes. Thus, the higher level nodes defined by the locking units do not contain the identity of a parent node. Further, the locking units do not contain a position indicator indicating a position of the locking unit relative to a sibling node.

As neither *Schnelle* nor *Fay*, when considered alone or in combination, disclose or even suggests all of the features of independent claim 34, the Applicant submits that independent claim 34 and the claims that depend therefrom are patentable over *Schnelle et al.* in view of *Fay*.

Independent claim 54 is an apparatus claim corresponding to the method of claim 34, and the Applicant submits that independent claim 54 and the claims that depend therefrom are patentable over *Schnelle et al.* in view of *Fay* for the reasons presented above in respect of claim 34.

Further, independent claim 74 is a computer program product claim corresponding to the method of claim 34, and the Applicant submits that independent claim 74 and the claims that depend therefrom are patentable over *Schnelle et al.* in view of *Fay* for the reasons presented above in respect of claim 34.

16. Claims 36, 45, 46, 51-53, 56, 65, 66, 71-73, 76, 85, 86, 91-93 and 95-97 were rejected under 35 U.S.C. § 103(a) as being unpatentable over International Publication Number WO 98/34179 (*Schnelle et al.*) in view of US Patent No. 5,892,513 (*Fay*) as applied to claims 34, 54, and 74, and further in view of US Patent No. 6,185,576 (*McIntosh*).

As presented above in respect of rejection 15, the Applicant submits that *Schnelle* and *Fay* fail to disclose or even suggest all of the essential features of independent claim 34. In particular, the Applicant submits that *Schnelle* and *Fay* fail to disclose or even suggest terminal nodes for storing predefined portions of text-based data and higher level nodes for organising the terminal nodes to correspond to a hierarchical structure. Further, *Schnelle* and *Fay* fail to disclose or suggest the defined properties of the higher level nodes relating to the identity of a parent node.

and a position indicator for indicating a position of the higher level nodes relative to their respective sibling nodes.

Claim 36 depends from claim 34 and introduces the limitation of associating each of the predefined portions with a corresponding scope defining the time during which each of the predefined portions is valid. Column 31, line 21-column 46, line 45 of *McIntosh* describes a number of attributes. Included among the listed attributes of *McIntosh* are Last Changed Date, Last Changed By, Timestamp, Usage Start Date, and Usage End Date. Usage Start Date is defined to be "the date and time the update or report was activated". Usage End Date is defined as follows:

"The usage end date is the date and time the function completed processing the rows. The difference between the usage start date and usage end dates is the number of seconds required to retrieve the report rows or post the changes to the database for an update function."

Thus, the usage start and end dates are utilised to determine processing time. The usage start and end times of *McIntosh* do not constitute a corresponding scope defining a time of validity of a predefined portion.

The Applicant submits that claim 36 and the claims that depend therefrom are patentable over *Schnelle* in view of *Fay* and further in view of *McIntosh*, as those documents fail to disclose or even suggest all of the essential features of claim 36.

Claim 56 is an apparatus claim corresponding to the method of claim 36, and the Applicant submits that claim 56 and the claims that depend therefrom are patentable over *Schnelle et al.* in view of *Fay* for the reasons presented above in respect of claim 36.

Further, claim 76 is a computer program product claim corresponding to the method of claim 36, and the Applicant submits that claim 76 and the claims that depend therefrom are patentable over *Schnelle et al.* in view of *Fay* for the reasons presented above in respect of claim 36.

Claim 45 depends from claim 36 (which depends from independent claim 34) and the Applicant submits that claim 45 is patentable over *Schnelle* in view of *Fay* and *McIntosh* at least for the reasons present above in respect of independent claim 34. As discussed above, the Applicant submits that neither *Schnelle* nor *Fay* discloses the terminal nodes of claim 34. The terminal nodes of claim 34 contain predefined portions of text, while no predefined portions (and thus content) are stored in the

higher level nodes of the hierarchical structure. Claim 45 introduces the feature of each terminal node being identified by the combination of the terminal node's identifier and scope. Combining the terminal identifier with the scope in the manner defined by claim 45 allows a user to identify a portion of text of an electronic publication that is valid during a period of interest. The Applicant submits that *Schnelle* in view of *Fay* and further in view of *McIntosh* not only fails to disclose the terminal node of claim 45 having an associated scope, but fails to teach or suggest the identification of a terminal node by utilizing a terminal node's identifier in conjunction with the scope that defines the period during which the predefined portion stored in that terminal node is valid.

Claims 65 and 85 correspond to claim 45 and the Applicant submits that those claims are patentable over *Schnelle* in view of *Fay* and further in view of *McIntosh* at least for the reasons presented above in respect of claim 45.

The Applicant submits that claims 46 and 51-53 are patentable over *Schnelle* in view of *Fay* and further in view of *McIntosh* for at least the reasons presented above in respect of claim 45. Similar arguments apply in respect of claims 66 and 71-73, and claims 86 and 91-93 by virtue of their respective dependencies on claims 65 and 85.

In respect of claim 46, the Applicant submits that there is no teaching in any of the cited documents of a scope associated with a higher level node being dependent on one or more scopes of corresponding descendant nodes in a hierarchical structure. Similar arguments apply to claims 66 and 86.

Claim 95 depends from claim 50, which in turn depends from independent claim 34. As presented above in respect of claim 34, the Applicant submits that claim 34 and the claims that depend therefrom are patentable over *Schnelle* in view of *Fay* and further in view of *McIntosh*.

Independent claim 94 is directed to a method of publishing an electronic publication formed from predefined portions of text-based data encoded using a markup language. Fig. 4 of *Schnelle* does not define a hierarchical structure having a root node with a null parent identity. The passages cited by the Examiner do not teach or suggest the organization of predefined portions into a layered structure with each layer being subordinate to the layer above it, as required by the hierarchical structure constraint of claim 94 of the present application.

Claim 94 of the present application requires that each higher level node contains the identity of a parent node, a position indicator for that higher level node and an identifier. The position indicator indicates a position of the higher level node relative to a sibling node. Figs 3 and 4 of *Fay* describe locking units and their associated "shadow nodes". The locking units contain pointers to their child nodes, but do not contain the identity of, or even a pointer to, a parent node. Rather, the locking units may contain a pointer to an associated shadow node. The shadow nodes shown contain pointers to parent nodes. Thus, the higher level nodes defined by the locking units do not contain the identity of a parent node. Further, the locking units do not contain a position indicator indicating a position of the locking unit relative to a sibling node.

Claim 94 further defines that the predefined portions include text associated with a commentary, and a scope including a start date, an end date and an update date. The Examiner argues that *McIntosh* discloses documents (portions) identified by a combination of identifiers and scopes. The Applicant submits there is no teaching in the combined teachings of *Schnelle*, *Fay* and *McIntosh* of predefined portions that include text associated with a commentary and a scope, wherein the predefined portions are stored in terminal nodes of a hierarchical structure organised in accordance with the constraints of claim 94 by higher level nodes.

As *Schnelle* in view of *Fay* and further in view of *McIntosh* fails to disclose or even suggests all of the features of independent claim 94, the Applicant submits that independent claim 94 and the claims that depend therefrom, including claims 95-97, are patentable over *Schnelle et al.* in view of *Fay* and further in view of *McIntosh*.

17. Claims 39-42, 59-62, and 79-82 were rejected under 35 U.S.C. § 103(a) as being unpatentable over International Publication Number WO 98/34179 (*Schnelle et al.*) in view of US Patent No. 5,892,513 (*Fay*) as applied to claims 34, 54, and 74, and further in view of US Patent Application Publication No. 2002/0133484 (*Chau et al.*).

Claim 39 depends from claim 34 and introduces the further feature of the predefined portions corresponding to a relational database represented in flat file records. Claim 40 depends from claim 34, and introduces the further steps of dividing XML data in predefined portions and storing the portions as flat files.

Claim 34 is directed to a method of publishing an electronic publication formed from predefined portions of text-based data encoded using a markup language. In the claim, predefined portions are stored in terminal nodes, and one or more higher level nodes are provided for organising the terminal nodes to correspond with a hierarchical structure embodied in the electronic publication. One of the higher level nodes is defined to have a null parent identity, and thus acts as the root of the hierarchical structure. By definition, the hierarchical structure provides an ordered classification, with each layer subordinate to the one above it. Each of the higher level nodes consists of the identity of a parent node, a position indicator for the higher level node and an identifier. The content of the electronic publication is stored in the terminal nodes. No content is stored in the higher level nodes. Further, the position indicator of each higher level node indicates a position of that higher level node relative to a sibling node.

Schnelle does not describe a hierarchical structure having a root node with a null parent identity. The passages cited by the Examiner do not teach or suggest the organization of predefined portions into a layered structure with each layer being subordinate to the layer above it, as required by the hierarchical structure constraint of claim 34 of the present application.

Claim 34 of the present application requires that each higher level node contains the identity of a parent node, a position indicator for that higher level node and an identifier. The position indicator indicates a position of the higher level node relative to a sibling node. Figs 3 and 4 of *Fay* describe locking units and their associated "shadow nodes". The locking units contain pointers to their child nodes, but do not contain the identity of, or even a pointer to, a parent node. Rather, the locking units may contain a pointer to an associated shadow node. The shadow nodes shown contain pointers to parent nodes. Thus, the higher level nodes defined by the locking units do not contain the identity of a parent node. Further, the locking units do not contain a position indicator indicating a position of the locking unit relative to a sibling node.

As neither *Schnelle* nor *Fay*, when considered alone or in combination, disclose or even suggests all of the features of independent claim 34, the Applicant submits that it would not have been obvious to a person skilled in the art to combine the description of *Chau* with the methods of *Schnelle* and *Fay* to arrive at the method of claim 39. Accordingly, the Applicant submits that claim 39 is patentable over

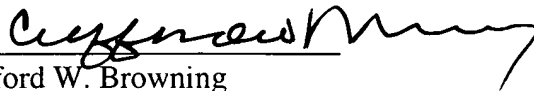
Schnelle et al. in view of *Fay* and further in view of *Chau*. Similar arguments apply in respect of claim 40 and claims 41 and 42 that depend therefrom.

Similar arguments as presented in respect of claims 39-42 apply to corresponding claims 59-62 and 79-82.

Claim 41 depends from claim 40 and introduces the further feature of the terminal nodes including a label of the publication. There is no teaching in *Schnelle* of terminal nodes within a hierarchical structure, as discussed above with respect to claim 34, let alone such terminal nodes having labels associated with said publication. Similar arguments apply in respect of claims 61 and 81.

Claim 42 depends from claim 41 and introduces the further feature of the label being data associated with a higher level node of the terminal node. The Applicant submits that there is no teaching or suggestion in the combined descriptions of *Schnelle*, *Fay*, and *Chau* of a terminal node containing a label that is data associated with a higher level node of said terminal node in a hierarchical structure. Accordingly, the Applicant submits that claim 42 is patentable over *Schnelle* in view of *Fay* and further in view of *Chau*. Similar arguments apply to claims 62 and 82.

Respectfully submitted,

By: 
Clifford W. Browning
Reg. No. 32,201
Woodard, Emhardt et al. LLP
Bank One Center/Tower
111 Monument Circle, Suite 3700
Indianapolis, IN 46204-5137
(317) 634-3456

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